



National Transportation Safety Board Aviation Accident Final Report

Location:	Anchorage, AK	Accident Number:	ANC03LA085
Date & Time:	07/31/2003, 2013 AKD	Registration:	N29CF
Aircraft:	Cessna 207	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 Serious, 1 Minor, 2 None

Flight Conducted Under: Part 135: Air Taxi & Commuter - Non-scheduled

Analysis

The commercial pilot was conducting an on-demand passenger flight with three passengers aboard. As the airplane approached the destination airport, about 800 feet agl over a city, the engine began to run rough and lose power. In an attempt to restore engine power, the pilot confirmed that the fuel selector valve was placed to the right fuel tank, and momentarily placed the auxiliary fuel boost pump in the high boost position. Engine power was momentarily restored, followed by a complete loss of power. The pilot selected a forced landing area adjacent to several baseball fields. During the forced landing approach, the airplane passed over four occupied baseball fields. During touchdown, the airplane's left wing collided with a chain link fence, the airplane veered to the left, collided with a concrete embankment, and cart wheeled to the left. During an on scene interview the pilot reported that he routinely flew the accident route using only the right fuel tank. He said that fuel stored in the left fuel tank was considered a reserve tank. Another pilot had flown the accident airplane prior to the accident flight, and usually, when an airplane returned to the operator's base, line service personnel would routinely fill the right fuel tank, to be ready for the next flight. Prior to departing on the outbound leg of the flight, the pilot said that he did not visually check the fuel quantity in the right wing fuel tank, and that the entire round trip flight was flown with the fuel selector valve selected to the right fuel tank. When asked if he attempted to switch the fuel selector valve from the right fuel tank to the left tank, the accident pilot responded "no." During wreckage recovery efforts, and in the presence of the NTSB IIC, about 0.8 gallons of fuel was drained from the right wing-mounted fuel tank, and associated fuel lines. About 30 gallons of fuel were drained from the left wing-mounted fuel tank. The tanks were not damaged during the accident and did not leak.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's incorrect positioning of the fuel tank selector valve to a nearly empty tank, which resulted in a loss of engine power due to fuel starvation, and subsequent emergency landing at an off-airport site. Factors associated with the accident were the pilot's inadequate preflight

inspection, and his inadequate remedial action.

Findings

Occurrence #1: LOSS OF ENGINE POWER(TOTAL) - NONMECHANICAL

Phase of Operation: CRUISE

Findings

1. (F) AIRCRAFT PREFLIGHT - INADEQUATE - PILOT IN COMMAND
2. (C) FLUID,FUEL - STARVATION
3. (C) FUEL TANK SELECTOR POSITION - INCORRECT - PILOT IN COMMAND
4. (F) REMEDIAL ACTION - INADEQUATE - PILOT IN COMMAND

Occurrence #2: FORCED LANDING

Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: EMERGENCY LANDING

Findings

5. OBJECT - FENCE
6. OBJECT - WALL/BARRICADE

Factual Information

On July 31, 2003, about 2013 Alaska daylight time, a Cessna 207 airplane, N29CF, sustained substantial damage when it collided with a chain link fence and concrete embankment during a forced landing at a football stadium complex in Anchorage, Alaska. The airplane was being operated by Spornak Airways, Inc., Anchorage, Alaska, as an on-demand passenger flight under Title 14, CFR Part 135, when the accident occurred. Of the four people aboard, the certificated commercial pilot, and one passenger, were not injured. One of the passengers sustained serious injuries, and the remaining passenger sustained minor injuries. Visual meteorological conditions prevailed and VFR company flight following procedures were in effect. The flight originated at the Beluga Airport, Tyonek, Alaska, about 1945, and was en route to the Merrill Field Airport, Anchorage.

On July 31, about 2150, during an interview at the Alaska Regional Hospital emergency room, the pilot reported to the National Transportation Safety Board (NTSB) investigator-in-charge (IIC), that as the flight progressed eastbound towards the Merrill Field Airport, about 800 feet above ground level (agl) over the city of Anchorage, the engine began to run rough and lose power. He said in an attempt to restore engine power, he confirmed that the fuel selector valve was placed to the right fuel tank, and momentarily placed the auxiliary fuel boost pump in the high boost position. He said that engine power was momentarily restored, followed by a complete loss of engine power. He selected a forced landing area on an athletic track located within a football stadium complex, adjacent to several occupied baseball fields. During the forced landing approach, the airplane passed over four occupied baseball fields. On touchdown, the airplane's left wing collided with a chain link fence, the airplane veered to the left, collided with a concrete embankment, and cart wheeled to the left. During the collision, the engine assembly was torn from the airplane, and the outboard portion of the left wing was severed. The pilot said that as the engine was torn from the airplane, he saw a brief flash-fire coming from underneath the instrument panel, adjacent to the rudder pedals.

The accident was witnessed by numerous individuals located at various locations around the stadium complex, and along the flight route over west Anchorage. The witnesses consistently reported that as the airplane passed over west Anchorage and proceeded eastbound toward the Merrill Field Airport, they heard the engine lose power, backfire, and eventually stop running. Many of the witnesses said that engine power appeared to be restored momentarily, but this was soon followed by a total loss of engine power. Witnesses located at various sites around the stadium complex also reported that as the airplane approached the stadium complex, the propeller of the airplane was turning very slowly, and at one point, stopped turning completely.

A television news crew was video taping a baseball game at the time of the accident, and recorded the entire accident sequence. During the on scene portion of the investigation, the NTSB IIC was able to review the video tape of the accident sequence. The tape revealed that as the airplane descended towards the stadium complex from the west, the propeller appeared to be wind milling. The airplane eventually descended, left wing low, into the athletic track area. The airplane's left wing struck a chain link fence and concrete embankment, and the airplane cart wheeled to the left. The tape also revealed that as the airplane's engine assembly was torn from the fuselage, a brief flash-fire was visible in the area of the airplane's firewall.

During a follow-up on scene interview with the NTSB IIC on August 1, the day after the accident, the pilot reported that he routinely flies the trip between Anchorage and Beluga using

only the right fuel tank. He said that fuel stored in the left fuel tank was rarely used, and this tank was considered a reserve tank. He added that prior to the accident flight, he had been flying another company airplane for most of the day, and that another pilot had flown the accident airplane. He said that usually, when an airplane returned to the operator's base, line service personnel would routinely fill the right fuel tank, to be ready for the next scheduled flight. Prior to departing from Anchorage en route to Beluga, the pilot said that he did not visually check the fuel quantity in the right wing fuel tank, and that the entire round trip flight was flown with the fuel selector valve selected to the right fuel tank. The NTSB IIC asked the accident pilot if he attempted to switch the fuel selector valve from the right fuel tank to the left tank. He responded "no."

The accident pilot held a commercial pilot certificate with single-engine and multiengine land ratings. The most recent first-class medical certificate was issued to the pilot April 16, 2003, and contained the limitation that the pilot must wear corrective lenses. According to the NTSB Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1) submitted by the operator, the pilot's total aeronautical experience consisted of about 2,000 hours, of which 1,000 were accrued in the accident airplane make and model. In the 90 and 30 days prior to the accident, the pilot had flown a total of 120 and 50 hours, respectively.

The Cessna 207 main fuel tank selector valve has three positions available. If the selector is set to the LEFT position, fuel is supplied to the engine from the left fuel tank. If the selector valve is set to the RIGHT position, fuel is supplied to the engine from the right fuel tank. The third position is OFF, which shuts off all fuel to the engine. The Cessna 207 fuel system uses two, 40-gallon, wing-mounted fuel tanks, with a total of 36.5 gallons usable fuel in each fuel tank.

On August 1, during wreckage recovery efforts, and in the presence of the NTSB IIC, about 0.8 gallons of fuel was drained from the right wing-mounted fuel tank and associated fuel lines. About 30 gallons of fuel were drained from the left wing-mounted fuel tank. Examination of the tanks revealed they were not damaged during the accident and did not leak.

On August 14, 2003, an external engine examination was conducted in Anchorage at Aero Recip of Alaska. Impact damage precluded a postaccident engine run in an engine test cell. Both magnetos produced spark at all terminals upon hand rotation.

The engine driven fuel pump was removed from the engine and placed on a test stand. The fuel pump was operated at various speeds, and it produced adequate pressure in accordance with the engine manufacturer's specifications. The fuel pump drive coupling was intact.

No preaccident mechanical anomalies were noted during the engine or airframe examination. The Safety Board did not take custody of any aircraft or engine components.

Pilot Information

Certificate:	Commercial	Age:	34, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	04/16/2003
Occupational Pilot:		Last Flight Review or Equivalent:	04/30/2003
Flight Time:	2000 hours (Total, all aircraft), 1000 hours (Total, this make and model), 1930 hours (Pilot In Command, all aircraft), 120 hours (Last 90 days, all aircraft), 50 hours (Last 30 days, all aircraft), 6 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N29CF
Model/Series:	207	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	20700353
Landing Gear Type:	Tricycle	Seats:	6
Date/Type of Last Inspection:	07/15/2003, 100 Hour	Certified Max Gross Wt.:	3800 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Continental
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	IO-520-F
Registered Owner:	SPERNAK AIRWAYS INC	Rated Power:	300 hp
Operator:	SPERNAK AIRWAYS INC	Operating Certificate(s) Held:	On-demand Air Taxi (135)
Operator Does Business As:		Operator Designator Code:	ERGA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	PAMR, 73 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	2050 ADT	Direction from Accident Site:	90°
Lowest Cloud Condition:	Few / 6000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	280°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.03 inches Hg	Temperature/Dew Point:	18° C / 6° C
Precipitation and Obscuration:			
Departure Point:	Beluga, AK (PABG)	Type of Flight Plan Filed:	Company VFR
Destination:	Anchorage, AK (PAMR)	Type of Clearance:	None
Departure Time:	1945 ADT	Type of Airspace:	Class D

Airport Information

Airport:	Merrill Field (PAMR)	Runway Surface Type:	
Airport Elevation:	73 ft	Runway Surface Condition:	
Runway Used:		IFR Approach:	None
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	1 Serious, 1 Minor, 1 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 1 Minor, 2 None	Latitude, Longitude:	61.200000, -149.833333

Administrative Information

Investigator In Charge (IIC):	Clinton O Johnson	Report Date:	03/30/2004
Additional Participating Persons:	Mike J Bowers; Federal Aviation Administration; Anchorage, AK		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).